PROGRAMMING WITH GRAWLIXES 3

GRAWLIXES AND THE SPIRITUAL IN ART

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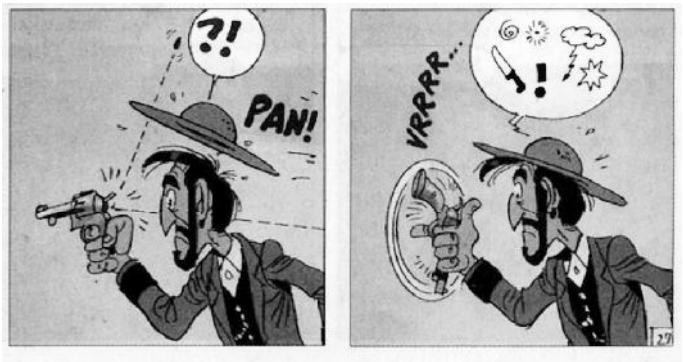
Introduction

You have tried, failed, crawled back up, learned and practised until you mastered the skill and are able to hit your targets blindfolded. Now you go through the motions effortlessly, without giving them any deliberate thought. A perfect routine. Your muscles recognize the moves, and the endless repetition has deeply habituated the causal chain connecting the responsible circuits. All aspects that connect you with the aspired complex skill merged into a single whole that you can grab in an instant so attention can be directed at a more challenging target. The program sinks below the level of conscious awareness, where it gradually stabilises and begets the status of a permanent- fixed trait.

That is; until something unforeseen questions the validity of that condition.



Lucky Luke; le Klondike, M.Morris. Yann. J.leturgie (1996)

An unexpected event causes the villain gunslinger to lose the aim towards his objective. The projective, linear path towards the target was cut when the routine was outsmarted by an unknown force from outside the frame. The activated program continues without its objective, outside the character, inside a speech balloon and in the shape of some non propositional or automatic- involuntary Grawlixes. [1]

This zine compares the way Grawlixes appear in comics with some of the structures underlying modernist art, especially early abstract or so-called non-objective drawing. [2] The goal is to find out to what extent the relation between shape and experience in Grawlixes and non-objective drawing is arbitrary.

The basic sequential structure of Grawlixes is as follows:

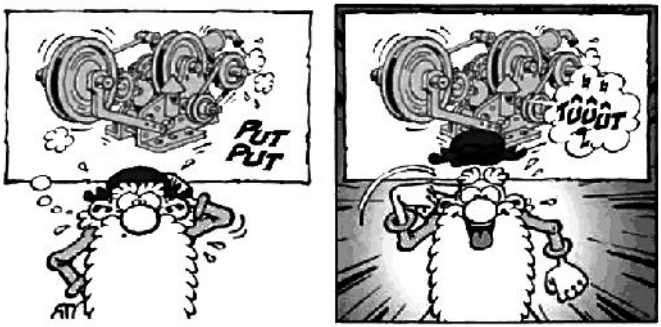
- A mechanistically and a non-mechanistically operating object or character move towards an inevitable collision within a single frame.
- Grawlixes appear from the most rigid object in the structure.
- Grawlixes are the necessary, visible evidence of the objectless continuation of the conflict; they are intrinsic to the structure of the work.

Romanticism

The sudden clumsiness of a relentless antagonist is a recurring sequence in representations of Wild West Romanticism.
Part of the Romantic period of the 19th century is characterized by a –move away from- the deterministic certainties of the mechanistic worldview of the Enlightenment. In many Romanticist works, the rigid structure of the images of the Enlightenment collides with elastic, irrational, intuitive, imaginative and emotional forces. [3]

The great day of his wrath; Jon Martin (1851-1853)

The Romanticist vision produces an image of a world no longer comfortably embedded in a stable, logical, systematic and permanent structure but subject to an irrational, continuously shifting core.

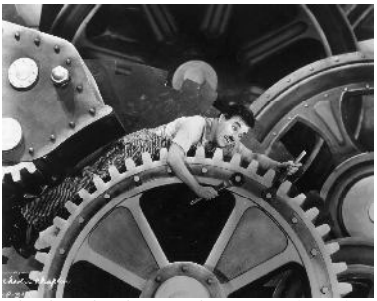


Leonard; Le génie donne sa langue au chat, Turk & B de Groot (2005)
The mad genius is a popular Romantic archetype. It incorporates a mockery on Enlightenment ideals by questioning the mysterious irrational moment of inspiration coming from mental operations that follow a strict mechanistic, logical method.

Modernity

Unfortunately, in time, the lack of a bounded conceptual structure exposed the heroes of Romanticism to the growing influence of the machine. And by the end of the 1900's they find themselves increasingly lost in the dehumanized automations of modernity.

Fritz Lang; Metropolis (1927)



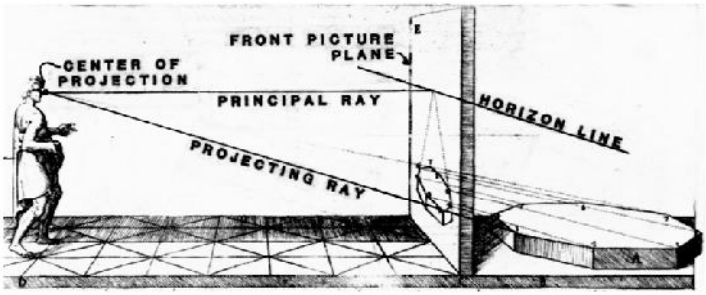
Charlie Chaplin; Modern times (1935)

In the movie Metropolis (1927), the heroes of the story, the sensitive, emotional forces of the Romantic ideal become the binding agents that unite the mental faculty (the head of the factory) with the hands (the workers). [4]
A few years later however, in the movie Modern Times(1935) there is no such reconciliation. Instead, a definite split between hardcore automation of Fordism, and the natural character of the Romantic era becomes visible when Chaplin's naïve protagonist is catapulted out of a useless machine and finds himself outside the system, alienated, detached, and no longer submitted to relentless mechanization.

An unbridgeable gap seems to have emerged between the objective mechanistic worldview and the subjective experience of it.
The automatic machine was the materialization of the mechanistic worldview, and with that it also disclosed its shortcomings.

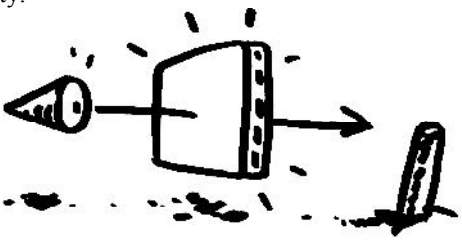
Mechanical as Natural: Linear Perspective

Within the art of drawing, the mechanistic program of the Enlightenment lies enclosed in the rules and methods of linear perspective.
Linear perspective is a rationalised, mathematical image of space, it is the *science* of art. [5]



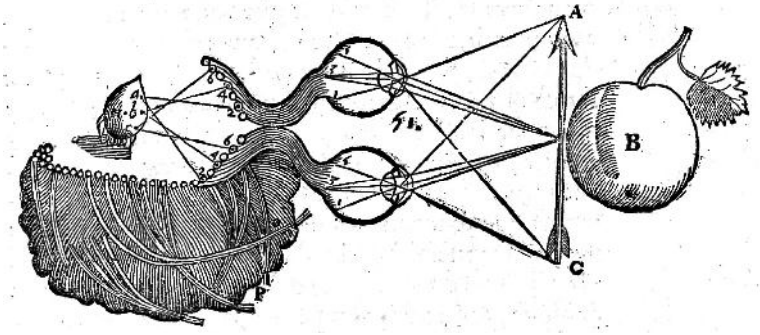
G. B. Vignola, La due regole della prospettiva practica (1611) [6]

In the concept of perspective, the painted surface is imagined as an open frame, like a window (perspective means 'seeing through')[7]. This frame or "picture plane" is not just a pictorial ground, it is a screen on the world, an interface that mediates between the subjective point of view of the eye, and the objects of reality.



Just like the target captured the aim of the gunman, linear perspective "holds the view in place" it immobilizes the body in space as it directs attention towards a target. [8] The visual rays are like the path of the bullet that draws a trace between the eye and the goal. Every direct hit assigns a point to an exact location in the conceptual space of the picture plane and is a confirmation of the accuracy of the program.

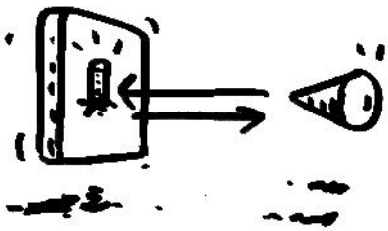
Linear perspective is a rigid program of attention and motor skill that "translates psycho-physiological space into mathematical space, in other words; it is an objectification of the subjective."[9]



René Descartes; Treatise of Man (1664)

In the above illustration from Descartes, the visual rays continue inward and project a mental image of the object in the head of the observer.[10] It shows how the theory of linear perspective in art unified existing views on vision, perception and thought.[11]

Linear perspective and its derived program of perception are structured as a basic motor-program (start-action-goal). Its completed program, the copy of a real object on the picture plane, is embedded in a coherent structural whole.



Following the laws of linear perspective, the program creates more or less accurate representational copies of real objects in the mind, and connects them to a logical mathematical structure. It defines a mental operation as the -systematic organisation of mental objects in relation to oneanother-. The program completes i.e. the work is finished when the copy is coherent, logical and unambivalent, in other words; *when the conclusion is true*.

But because Romanticism questions the objectivity of linear perspective, *it also challenges the very nature of perception and thinking itself.*
Linear perspective provided a theoretical ground for the structure connecting visual impressions (percepts) and abstract thought (concepts). It connected subjective experience to an objective reality and vice versa. Part of this structure was lost when the Romantic characters entered the modernist era.

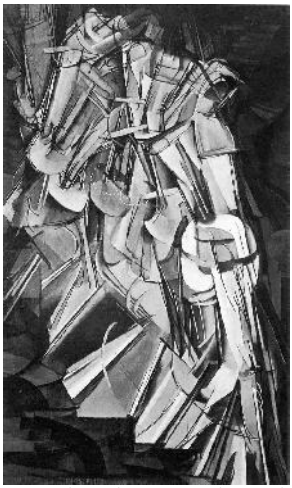
the Gap: Modernism

At the turn of the millennium the absence of the structural binding of linear perspective in painting drives an axe through the colliding forces of Romanticism and cuts it into two separate autonomous entities.

On one side of the gap:
Visual impressions without conceptual structure (blind percepts)
On the other:
Conceptual structures without visual impressions (empty concepts) [12]

1. Visual impressions without conceptual structure: *Motion*

With visual information no longer structured by the rigid mathematical laws of perspective, the perceptual program is submitted to the continuous change of sensory impressions.

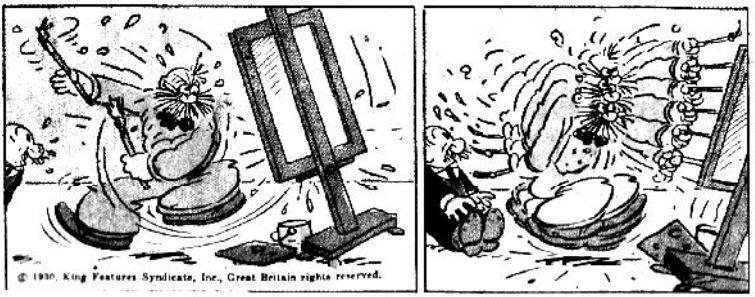


Marcel Duchamp; Nu descendant un escalier n° 2(1912)

With the visual rays no longer fixated towards a single immobile point, motion becomes visible within the picture plane. The objective moves around the frame as the path towards completion progresses in time.

(rule) *Without fixed conceptual structure, visual impressions leave a repetitive motion trace in the frame.*

The shifting point is a meaningful subject in modernist art because it emphasises the limitations of the old paradigm

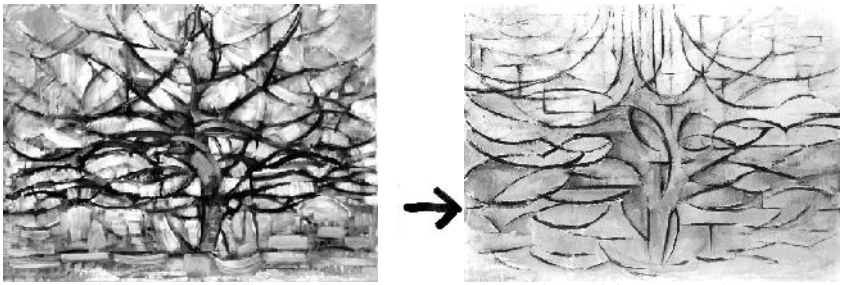


E.C.SEgar; Sappo (1930)

For the romantic artist, chasing a constantly shifting objective, puts a strain on the motor program. The combination of infinite adjustment and a drive to complete can catapult the program into a running self-oscillation that can drive a character to madness. [13]

2. Conceptual structures without visual impressions: *Abstracting*

On the other side of the gap, the conceptual program no longer materializes in visual material. Concepts lose their distinct shape and become increasingly symmetrical and selfsimilar.



Piet Mondriaan; de grijze boom(1911) *Bloeiende Appleboom (1912)*

Piet Mondriaan's sequence shows how, when the influence of sensory impressions decreases, the subjective qualities of the object disappear, as do the borders with its surroundings, and there is an *increase of symmetries*.

The laws of perspective determined the exact position of the object in time and space. The rejection of perspective as an objective method of truth raises the question to what extent the objects that constitute the worldview are a PRODUCT of the laws of perspective, and to what extent the objects and consequently the image of the real are <u>a creation of the mind itself</u>.

Language

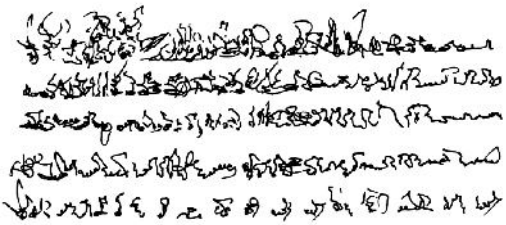
In the Romanticist vision of language, language "expresses and records our knowledge through words, which signify not ideas, nor things but the relation between idea and perceived object." [14]
However, if the nature of this relation between idea and object is discarded then the structure of language itself is also under dispute.
Following examples show some of the striking resemblances between the utterances of an obstructed antagonist in comics and the art of the early avant-garde.

Cliff Sterrett; When a mans married(1911)

Man Ray; Poem(1924)

A variation using obstensibly obliterated epithets.

Mort Walker; the Lexicon of Comicana (1980)

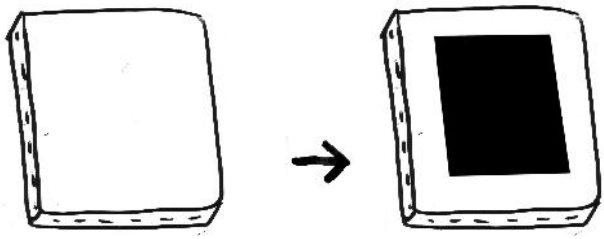


Henri Michaux; Narration (1927) (from asemic.net)

Relentlessness

Kazimir Malevich; Black Square (1915)

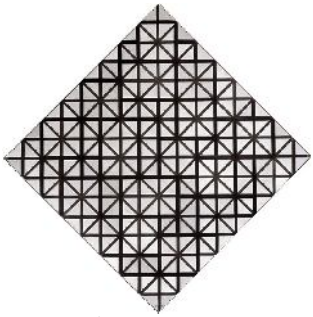
In Malevich's radical and iconic "black square", the decreasing influence of visual impressions reaches the point where all objects have vanished from the frame.



The abstracting principle of the conceptual program did not end at a zero state, it continued its path within the frame. And without external visual impressions, a self-similar recursion is an automatic and necessary consequence of that continuation.
In accordance with his Russian orthodox background, Malevich presents the black square as the icon of the new era.
Clearly, this abstracting principle is not just a withdrawal[15] from perception, it is an *autonomous and continuous generative program*, and it points towards the following rule:

(Rule) *Without visual impressions, concepts produce self-similar symmetries.*

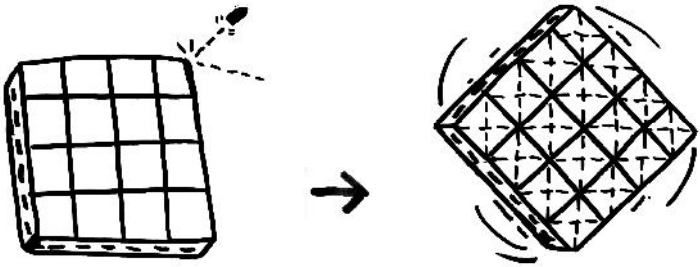
Colliding



Piet Mondriaan; Compositie met grijze lijnen (1918)

In “composition with grey lines” of Piet Mondriaan, a self-similar recursion appears to have continued its path inward until it collided with a force outside its own frame.

It seems that, even without the mediating program of linear perspective, percepts and concepts i.e. the moving point and the abstracting principle are intimately connected.



The works of Mondriaan and Malevich imply that there are two laws inherent to the process.

1 (law); *If withdrawal from the real is complete, abstracting operations continue as self-similar recursions within the frame.*

2 (law); *At some point, the recursion collides with a force outside the frame.*

The collision re-introduces the critical structure of Romanticism. And despite the logical geometrical appearance of the work, it reveals Mondriaan’s Romantic spirit.

The works of Mondriaan and Malevich are not simply the outcome of a formal withdrawal from the objects of the real; they are also the *automatic consequence* of an increase in mobility and elasticity of the subjective point, and both oppositional paths collide at the location of the picture-plane.

At its most 'undressed' state, the concept of the picture plane represents no longer a window on the world. It loses its exclusive function as a medium between subjective impressions and objective concepts, and becomes an arena of colliding oppositional forces. [16]

'Real' objects

If visual impressions present themselves, unmediated, without conceptual structure, how does one distinguish meaningful objects from their contextual environment?

R.Mutt; Fountain (Marcel Duchamp 1917)

Duchamp directs the abstracting program towards a 'real' object, as he isolates it from its conventional context by bringing it into the domain of the arts, -the object as objective- where it collides with an external force.
The work brings under attention a connection between the objective thing and the subjective moving point that is not just intrinsic to the structure of the picture plane, but *intrinsic to the structure of art as a whole.*

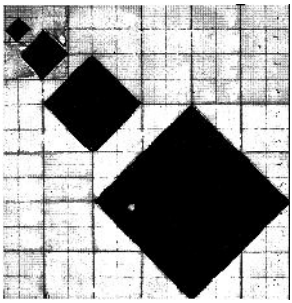
When Marcel Duchamp signs the work as R.Mutt, he clearly is not unaware of the deep structural link with early cartoons and Grawlixes, as he points towards one of the most archetypical early cartoon duo's based on colliding oppositional forces; Mutt & Jeff.

Accordig to Duchamp; *"Mutt comes from Mott Works, the name of a large sanitary equipment manufacturer. But Mott was too close so I altered it to Mutt, after the daily cartoon strip 'Mutt and Jeff' which appeared at the time, and with which everyone was familiar. Thus, from the start, there was an interplay of Mutt: a fat little funny man, and Jeff: a tall thin man ..*" [17]

Bud Fisher; Mutt and Jeff (1913)

Continuation of the program

Below, another member of the Dutch abstract movement Theo van Doesburg, who's *Arithmetic composition* shows that the collision of a self-similar picture plane with an unknown external force is not the final conclusion for the path of modern art, nor is it the necessary end of the picture plane as a creative medium.



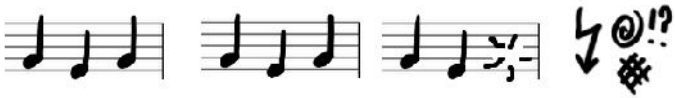
Theo van Doesburg; Arithmetic Composition (1929)

The abstracting program continues and simply incorporates the collision in its self-similar recursion.
It appears as if the interconnection between the abstracting program and the colliding force is *inevitable and continuous*.

the Experience of Non-Completion.

What drives the recursion? Why does the recursion not just stop processing and halt at any arbitrary point of incompleteness? And why is the collision inevitable?

The equivalent of linear perspective in the *music* of the Enlightenment is a meticulous system of order and expectancies evolving around laws of continuation, repetition and completion. [18]



Simply put; the program of repetition and tonality habituates patterns in the mind and this creates an expectation. When the pattern is cut, for example by a dissonant or a structural gap, the listener is moved by the unresolved expectancy. [19]

In classical music the structural gap is temporal and serves only to excite and to capture the attention. The 'law of continuation' commits the pattern to continue towards its completion.

But in the most radical modernist musical scores, the gap appears to be permanent, and the difference between the formal mathematical structure of music and the emotive imaginative experience no longer resolves.

For example, the early modernist composer Schoenberg- "the extreme maximalizer of romantic individualism in music" in his famous *Erwartung,* completely ignores the expectation (= erwartung) for closure when "no musical material returns once stated over the course of 426 measures" [20] [21]
The experience that follows the unresolved structural gap is intense as this article shows:

"*Here, a couple of young composers that moved far beyond the Works of Mahler arrived on the scene. First taking a distance from, and then slowly and radically abandoning tonality altogether. This musical language was scorned, frowned upon.(..) The composer comitted an act of terror on the nerves of the ear. With his dissonant orgy he did not just evoke unease, but immidiate physical pain.*" *(my translation)* [22]

The unfulfilled desire for closure found an outlet within part of the audience.

Das Skandalkonzert; Die Zeit (1913)

This illustration of the Schoenberg concert, shows the composer cunningly conducting his audience towards a state of emotional turmoil. The composer removed 'something' from the piece and this 'something' appears to resurface within the audience! The moving experience is the continuation of the anticipated path of the program towards its completion. Its expression is the forced completion of the modern piece.
In other words, it appears that -like the external colliding forces in the works of Mondriaan and Duchamp- audience and musical piece are part of the same dynamics: The 'incompletion' transposed a moving experience outside its own musical frame, and that e-motion collides and interferes with the work as the necessary continuation of the incompleted path. [23]
What then, is the nature of this apparently necessary link moving around between artist, piece and audience?

Inner Necessity

The painter Wassily Kandinsky, a good friend of Schoenberg, wrote in his famous "Concerning the Spiritual in Art" (1912);

"the unavoidable desire of the objective to express itself is the power which is here designated as inner necessity(..)"

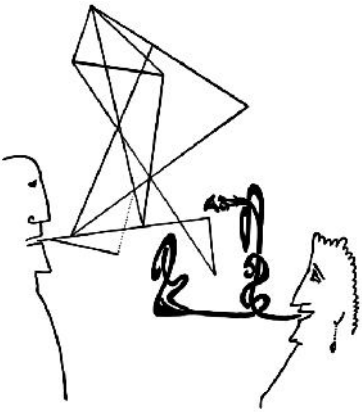
And;

"(..)the working of the inner necessity and, therefore, the development of art is an ever advancing expression of the eternally objective in the temporary

subjective. On the other hand, it is also fighting the subjective through the objective." [24]

Kandinsky, in perfect accordance with the theory of Grawlixes, defines the nature of inner necessity as the product of the intertwinement of two colliding oppositional paths, expressed through the most rigid point (the objective) in the frame.

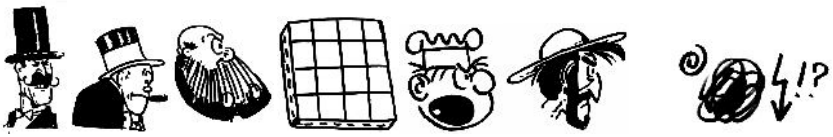
It is not that the objective of Kandinsky is exactly the same thing as the mental faculty in Metropolis or formalism in music. Subjective vs. objective does not deal with the exact same issues as scientific vs. artistic, rational vs. intuitive or intellectual vs. emotional.



Untitled, Saul Steinberg(1957)
Steinbergs male vs. female version of the oppositional paths: A male rigid, highly symmetrical expression, and another, feminine, fluid, elastic.

But in all the examples, the path of the rational, scientific, objective, formal or mechanistic is similar to the path of the captain of the Katzenjammer Kids and the relentless banker, the conservative father, the drill sergeant and the villain gunslinger, that is; <u>they all move towards the most rigid point in the equation and function as the necessary release point of Grawlixes.</u>

It is just that whenever any complex, living, dynamic system is cut in two, one side will inevitably develop in a more mechanical, rational or symmetrical way in comparison with the other.



Uttering Grawlixes is like putting an exclamation mark on necessity itself. Inner necessity does not produce a random utterance, it is the more or less involuntary, objectless continuation of the Romantic conflict.

V.T.Hamlin; Alley Oop (1973)
V.T.Hamlin shows that there is a clear distinction between arbitrary expressions (top left) and the necessary and involuntary elements of Grawlixes (bottom centre), and real or not, the others certainly got the difference.

The point is this; the 'inner necessity' that is the driving force behind both non-objective art and the expression of Grawlixes in comics, is no confirmation that completion was the *inevitable single conclusion* to the sequence.

The examples used from comics in this study, imply that it is the habituation that is the universal cross-cultural pattern constant.

Habituation is a process independent of the nature of the work. This is why Grawlixes always surface in more or less the same shapes, but not confined to a single character, and why they are not some arbitrary cultural historical artefact.

It suggests, that even the most devote follower of Schoenberg, who does not hold any expectancies regarding, repetition, closure, completion or resolution - listening to his most radical piece- will always maintain an intrinsic tendency towards habituation, and because this tendency is not addressed, the music is still deeply moving.

Fascism

The experience of an infinite conflict with a desire for permanent solution can become a tricky affair in the mind of the agent of a relentless totalitarian system. Fascism-as-forced-completion is always something keep an eye out for.

Peter Bagge; Hate (1997)
A swastika popping up after an official is repeatedly forced to adjust the expectancies of his inelastic program.

Autonomy

With the necessary and inseparable coexistence of the two oppositional paths firmly grounded in the iconic images of modernism, the continuation of the Romantic conflict is guaranteed. And with every inevitable collision internalized by the self-similar recursion of the abstracting program, the complexity of the internal structure of the work can only increase.

Jackson Pollock; Mural (1943)

Above, Jackson Pollock directs the abstracting principle towards the moving point of cubo-futurism within a single frame. The painting becomes a turbulent field of colliding forces. Pre-conscious percepts keep pouring into the work, causing the abstracting and shifting forces to collide infinitely.

In the work of Pollock, collision is no longer with an unknown force outside the frame; Pollock, locked in an obsessive inwards spiralling path; "*paints himself inside the work*" [25]

The appearance of both forces within the frame is a significant change from the formalized dichotomy of radically isolated counterpoints apparent in the works of Mondrian and Malevich.
This is no clean, formally organized duel between empty concepts and blind percepts. The artist is not blind and therefore his concepts are never truly empty.
Even within a single frame, every collision is at the same time an involuntary step outside. It re-establishes the relation with the environment, and inevitably injects new sensory-information into the abstracting program.

Mapping

The fundamantal inability of the abstract expressionist path to complete, makes it relatively immune to fixed metaphorical meaning. [26]

Jackson Pollock; Vortex (1947)

Without completion- that is, definite solution, the expression is overtly ambivalent.
Many titles given to the paintings of Pollock indicate a relation between shape and meaning similar to the relation between Basic Grawlixes and the imagery used to give an explanation for the appearance of Grawlixes. For example; "*Vortex*", "*Out of the web*", "*Comet*", "*Shooting star*", "*Galaxy*", "*Reflection of the big dripper*".

When perception and analogical thought occur simultaneously, intertwined in an infinitely shifting evolutionary maelstrom, metaphorical meaning can only be given in post-production. Like adding titles to a work of art.

Conclusions.

There is a difference between art and comics.

Just as Humans do not come from apes but descend from a common ancestor, comics and early modernist art likewise share a common ancestor; the Grawlixes of Romanticism.

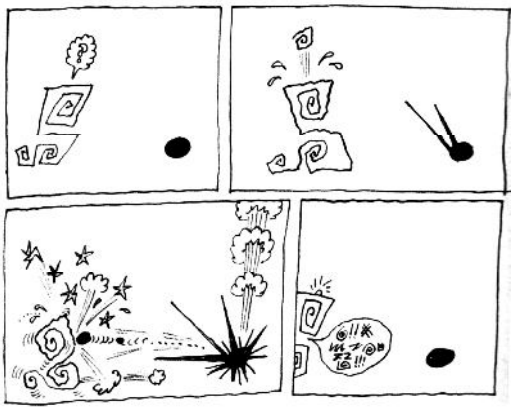
The evolutionary difference between modernist art and comics, in the early days of their existence, is that the evolution of modern art was based on optimizing form, where as the evolution of comics was based on optimizing narrative.

Grawlixes started appearing when the structural link (based on linear perspective) between perceptual impressions (percepts) and mental operations (concepts) was questioned. Their appearance showed how they were part of the "*indispensable link and most common trait of perceiving and thinking*" and are the visible evidence that such a trait existed. [27]

Expressing Grawlixes means (re-)activating the colliding forces of Romanticism in their most elementary form.

Eventhough Grawlixes often appear to be the dead waste of the most static and rigid character on the scene, they are in fact a kind of universal pre-creative toolbox out of which any cultural form can evolve.

Today Grawlixes are a rare phenomenon in comics. The psychology of cartoon characters has become more complex and increasingly resembles our own. This study showed that their psychological origin is not one of resemblance but emerged from inside.



Abstract comics. Saul Steinberg (1960)

Appendix I

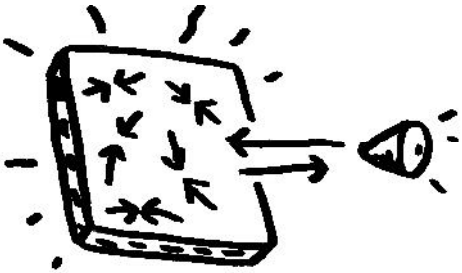
Information

Theoretically, objectless lines and Basic Grawlixes are motions *per-se*, motions that are non-physical. They have no mass or volume and in that sense they truly are the 'spiritual' element of art; super-natural, undead precences that flout the laws of physics.
But the *trace* or *record* of an objectless motion or of Basic Grawlixes *does* have physical limitations, a drawn line *does* fill a space.
Information is physical, that is, whenever we process information, be it in a computer or in our brains, that information is represented by something. [28]

The record of an objectless point, like a black ink-dot on a piece of paper, is a bit of information. And there are limits as to how many recognisable dots you can put on a piece of paper of a certain size. (without creating an indifferent black whole)

But an objectless program never completes its path. It is in a constant state of flux. With every collision, new sense data is flowing in, and if not put to a stop, the record of it is inevitably filling up space.

To maximise the amount of information, the complexity of the dynamics of the interactions between the oppostional forces necessarily increases.

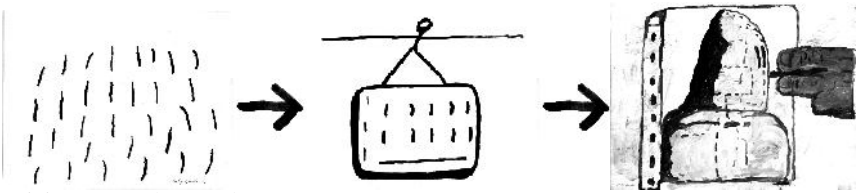


Blowing a balloon

If Grawlixes are objectless 'things' and Grawlixes constitute comics;
what then is the substance of form in comics?

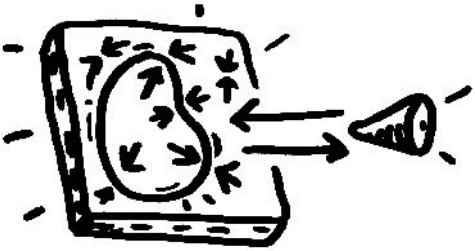
Within the physical limitations of the space of the paper, recording an infinite flow of information always threatens to fill-up physical space. However, within a closed contourline that is less rigid and more elastic than the edges of the paper, it may push the outline outward like a balloon and have an effect on form. Here information begets the qualities of air or a gas.

After a career as one of the main characters of abstract expressionst painting, Philip Guston, in the late 1960's, takes the colliding energies of abstract expressionism and captures them in crude, closed contourlines. These new iconic objects of art are generalised shapes, submitted to a subconscious expansive force, moving outward towards a path of least resistance



Philip Guston (1967-71)

Out of the turbulent chaos of abstract expressionism, Guston sculpts new forms. The recorded objectless gestures are ferociously disciplined, compressed and imprisoned in rudimentary selfsimilar copies of the pictureplane.



These forms are not well defined isolated organs. They are arbitrarily caged, dense chunks of emotive turmoil. The new objects are not the mathematically good forms of triangles,circles and squares. They are general, amorphic elastic containers, pregnant with evasive subconscious drives, barely pushed into shape by an abstracting program.
Guston's new forms are presented as classical allegories of painting (the studio, the self-portrait, the still life), where every object is a container of meaning; the

light and the stairs of the enlightenment, the brush, the mask, the shoe, the rock, the pointing finger. At the same time, every object and line has the unmistakable characteristics of the objects and lines of early comics.

Guston's works seem to confirm the theory, that the source of the humorous elasticity of comics is located in the Romanticist ideal, that is, in the unification of the rigid rationalism of the enlightenment with the free, emotive, irrational and imaginative.

The abstracting program continued within itself. The recursion created a selfsimilar copy of the picture plane with an elastic outline. This outline continuously fills up with external sensory information with the qualities of air or a gas.
The production of form in comics is like blowing up a balloon.

Mark Newgarden, signed as R.Mutt (2005) showing that even after death, objectless information is not lost.

The origin of the distinctive nose in 'bignose comics' lies not in the charicatural exaggeration of existing features, but in the expansive objectless information contained in an elastic, closed contourline.

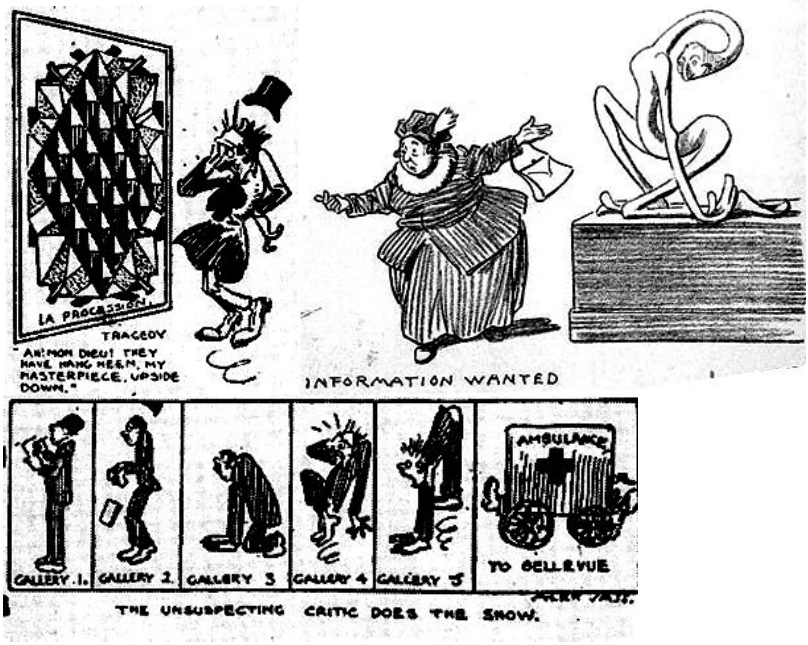
Appendix II

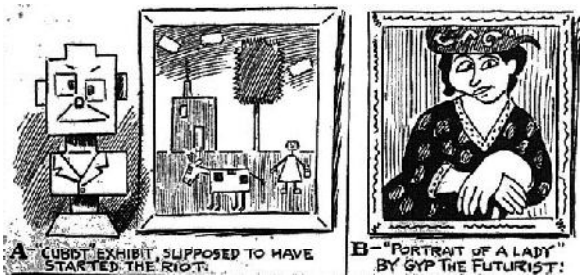
Comics vs Art

Often, the relationship between comic and art is linked to the moment the artists of the pop-art movement started incorporating imagery of comics.
But this zine has shown that the relation between modern art and comics is not based on resemblance but can be traced back to a common ancestor.
As a consequence, when modern art and comics appear within in single frame their differences become clear, and they may even become oppositional forces (for example in pop-art where both are perceived as modern art, or in early comics where both are seen as humorous or 'cartoonish').

The 1913 Armory show was the first major exhibition in the U.S. of the new revolutionary art of the European Avantgarde. In the cartoons following the event, comics and modern art collide head-on. [29]

On one side, the paradoxical motion-within-a-static-pictureplane of cubo-futurism is contrasted against the elastic motion-in-sequential-time-frames of comics, but at the same time, the rigid conservative character collides with the free unbound forms of art.





For the cartoonist, the presence of Grawlixes was an indicator of the failure of rigid mechanistic logic in a sequence. For the modernist on the other hand, the appearance of Grawlixes would have been a necessary piece of visible evidence of the non-mechanistic element in a static picture. This is why most cartoons at the time could only make fun of modernist art, because to them it was like a glorification of failure.

Notes;

[1] See previous issues: van Elburg, Marc. *Programming with Grawlixes 1* (2013) *2*(2014)
[2] The term 'non-objective' is a widely used but somewhat unfortunate translation of the German 'gegenstandslos' as it was originally used by Wassily Kandinsky and of Kazimir Malevich's 'bezpredmetnost'. Both terms refer to a 'world without objects' and don't have the connotation of subjectivity that 'non-objective' does have. The translation to 'objectlessness' suggested in the new translation of Malevich's "the world as objectlessness" is probably more accurate and is also how it is used here in relation to Grawlixes. (Malevich, Kazimir. *The World As Objectlessness* (Kunstmuseum Basel 2014))
[3] Romanticism, Adapted from *A Guide to the Study of Literature: A Companion Text for Core Studies 6*, Landmarks of Literature, English Department, Brooklyn College.
URL= *http://academic.brooklyn.cuny.edu/english/melani/cs6/rom.html*
[4] Significantly, at the moment the romantic mediator in Metropolis is mislead into believing that the Romantic ideal (the natural link between hands and head), is actually a machine, a deceitful robot created by a mad scientist under orders of the head, Grawlixes pop up in the shape of stars, spiraling motions, repetitive patterns and a skull.

Fritz Lang; Metropolis (1927)
[5] Panofsky, Erwin. *Perspective as Symbolic Form* (1924-25) Urizone inc. (1991)
[6] Image courtesy *The Arrow In The Eye* by Michael Kubovy, Christopher Tyler and WebExhibits. URL= *http://www.webexhibits.org/arrowintheeye/index.html*
[7] The socalled alberti window after Battista Alberti (1404 -1472) (perspective already existed but it was these new techniques that turned the surface into a coherent mathematical space.)
[8] "holds a view in place" Richardson, Ingrid. *Faces, Interfaces, Screens: Relational Ontologies of Framing, Attention and Distraction.* (Transformations. Issue No. 18 2010)
URL= *http://www.transformationsjournal.org/journal/issue_18/article_05.shtml*
[9] Panofsky, Erwin. *Perspective as Symbolic Form* (1924-25) Urizone inc. (1991)
[10] On mental images; Thomas, Nigel J.T. *Mental Imagery* (The Stanford Encyclopedia of Philosophy. Fall 2014 Edition), Edward N. Zalta (ed.),
URL = *http://plato.stanford.edu/archives/fall2014/entries/mental-imagery/*
[11] "*The history of the theory of vision is intimately connected with the discovery of linear perspective, .. 'It was James Gibson's contention that this connection between the theory of pictures and the theory of vision has been unfortunate in that psychologists and artists had managed to mislead one another; we have borrowed the so-called cues for depth from the painters, and they in turn have accepted the theory of perception*." Costall, Alan. *How meaning covers the traces*. (in; *Visual Order: The Nature and Development of Pictorial Representation* N. H. Freeman, M. V. Cox – 1985)
[12] It was Immanuel Kant (1781) advocating a synthesis between rationalism en empircism who said; *"Thoughts without content are empty, intuitions without concepts are blind. The*

understanding can intuit nothing, the senses can think nothing. Only through their unison can knowledge arise". Critique of Pure Reason (1781; 1787)

[13] I think it is not unlikely that the efforts to find a solution for the infinitely shifting point were the engine behind the sequential time-frames that defined the new art of comics. From the point of view of the cartoon character, the rigidity of the modernist frame in relation to motion is funny because it is the same rigidity that is attributed to the relentless antagonist who is also the source of laughter. It is the same sudden motion-within-the-static-frame that is also the engine behind the release of grawlixes from the antagonist in the cartoons. The lost objective sets-off a continuous motion within the character that challenges the image of a stable bounded self.

[14] Wallace, Katherine M. *Coleridge's Theory of Language* (Published in Philological Quarterly, 59. 1980),

[15] On withdrawal and abstract art see; Arnheim, Rudolf. *Visual Thinking* (The University of Chicago Press. 1969)

[16] See also the colliding views of art-critics Clement Greenberg (objective abstract rationalist) vs. Harold Rosenberg (subjective action) on the interpretation of abstract expressionism and the picture plane in the 1950's

[16] Howarth, Sophie. *Marcel Duchamp Fountain* (April 2000) URL = *http://www.tate.org.uk/art/artworks/duchamp-fountain-t07573/text-summary*

[18] Meyer, Leonard B. *Emotion and Meaning in Music* (The University of Chicago Press 1956)

[19] In music, *incompletenesss is either structural gap or delay in need for closure see; Meyer, Leonard B. p130*

[20] "the extreme maximalizer" From ; Taruskin,R. *Back to whom? Neoclassicism as Ideology* (1993)

[21] "where no musical material returns….." from; Friedheim, Philip. *Rhythmic Structure in Schoenberg's Atonal Compositions.* (Journal of the American Musicological Society. 1966).

[22] Armin Sattler, ORF(2013)URL=; *http://news.orf.at/stories/2175106/2175105/*
"*Und jetzt kamen ein paar junge Komponisten, die noch viel weiter gingen als Mahler – zunächst in der Erweiterung, dann langsam in der Überbordwerfung der Tonalität. Diese Musiksprache war verpönt: "Der Komponist verübt wahre Attentate auf die Gehörnerven. Er bereitet in seinem Dissonanzenparoxismus nicht bloß Unbehagen, sondern direkt physische Schmerzen."*

[23] "In Erwartung the aim is to represent in slow motion everything that occurs during a single second of maximum spiritual excitement, stretching it out to half an hour." (via wikipedia) Schoenberg, Arnold. *Style and Idea.* University of California Press (Los Angeles, 1984) This remark may also point towards another critical function of grawlixes, that is; to *compress a highly complex sequence into a single gesture.*

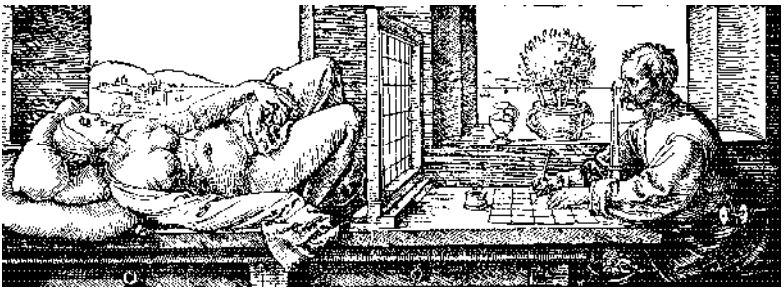
[24] Kandinsky, Wassily. *On the Spiritual in Art* (1911)English translation Solomon R. Guggenheim Foundation, (1946)

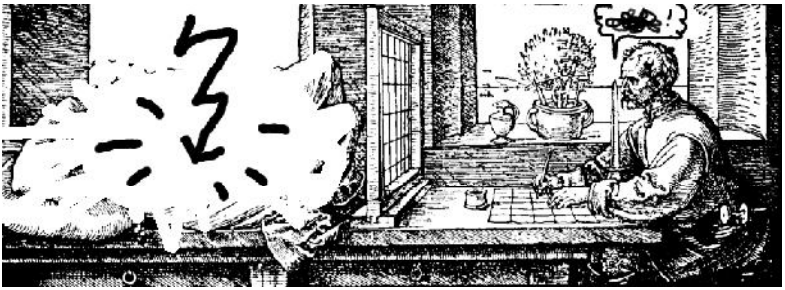
[25] "*When I am in my painting, I'm not aware of what I'm doing. It is only after a sort of 'get acquainted' period that I see what I have been about.* (Pollock Jackson. *my painting,* Possibilities I, New York, 1947)

[26] "Pollocks painting is a work against metaphor, against one of his pictures settling down inside a single metaphorical frame of reference". From; Leja, Michael. *Reframing abstract expressionism* (Yale University Press 1993)

[27] "*indispensable link"* From; Arnheim, Rudolf. *Visual Thinking* (The University of Chicago Press. 1969)

[28] For the physical properties of information see; “Landauer’s principle” URL= *http://en.wikipedia.org/wiki/Landauer%27s_principle*
[29] Vartanian, Hrag. *Vintage Comics React to Radical 1913 Armory Show.* URL= *http://hyperallergic.com/79951/vintage-comics-react-to-radical-1913-armory-show/*





Durer, Albrecht. Der zeichner des liegenden weibes (1538)